

REMARKS

The Office Action dated July 8, 2009, has been received and carefully noted. The following remarks are being submitted as a full and complete response thereto. Claims 1-3, 6-9 and 19-20 are pending in this application and claims 10-18 are withdrawn. By this amendment, claims 1 and 9 are amended, new claim 20 is added, and claims 4-5 are cancelled without prejudice to or disclaimer of the subject matter disclosed therein. Support for the amendment to claims 1 and 19 can be found in former claim 4 and in the Specification at, for example, paragraphs [0020] and [0032]. No new matter has been added. Reconsideration of the rejections of the claims is respectfully requested.

The Office Action rejects claims 1-9 and 19 under 35 U.S.C. § 103(a) as being obvious over Ishibashi (U.S. Patent No. 6,375,756) in view of Bridges (U.S. Patent No. 5,012,868) and Reale (U.S. Patent No. 5,451,754). The cancellation of claims 4-5 renders their rejection moot. With respect to the remaining claims, the rejection is respectfully traversed.

In particular, the above-identified application claims a self-cleaning catalytic chemical vapor deposition apparatus that includes a power supply to apply a bias voltage to a resistance heated catalytic body, a changeover switch that changes the polarity of the bias voltage, and a cleaning gas that includes one of a reducing gas or an inert gas, wherein the apparatus removes an adhering film while suppressing etching of the catalytic body itself when the cleaning gas comes into contact with the resistance heated catalytic body, and wherein the catalytic body has a temperature of between

1700 °C and less than 2000 °C, and the changeover switch changes the polarity of the bias voltage based on a kind of the inert gas and the reducing gas, as recited in amended claims 1 and 19.

Ishibashi teaches a “method for efficiently and completely removing a film deposited inside a film forming chamber and an in-situ cleaning method of a hot element CVD apparatus” (Abstract). Ishibashi also teaches that the cleaning gas includes various halogens (Col. 10, lines 30-36 and 49-55; Col. 4, lines 20-26), but there is no teaching anywhere in Ishibashi that the cleaning gas includes one of a reducing gas or an inert gas, as recited in amended claims 1 and 9. Although Ishibashi teaches a gas that includes hydrogen (Col. 5, lines 33-37), which may be interpreted as a reducing gas, the gas in question is a material gas used to form a silicon film, not the cleaning gas used to perform the cleaning process. Accordingly, Ishibashi fails to disclose or suggest at least this claimed feature.

In the section titled “Response to Arguments,” with respect to the claimed cleaning gas, the Office Action asserts that “[T]he examiner maintains the cleaning gas is not part of the structure of the apparatus” (Office Action, page 7, lines 7-8). As already argued in previous responses, a gas is a structural feature because it has a mass and weight and specific physical and chemical properties. Applicants are allowed to claim the cleaning gas, should Applicants choose to do so, as long as the claims are definite. The Patent Office insists in ignoring an affirmatively recited feature, which is the cleaning gas.

For at least the reasons above, Ishibashi fails to disclose or suggest a cleaning gas that comprises one of an inert gas or a reducing gas, as recited in amended claims 1 and 9.

With respect to the combination of additional references, the Office Action relies on both Bridges and Reale to disclose or suggest a power supply to apply a bias voltage to the catalytic body and a changeover switch that changes the polarity of the bias voltage. Bridges teaches a method and apparatus for corrosion inhibition in an electromagnetic heating system for heating a portion of a mineral fluid deposit adjacent an oil well or other mineral fluid well, in situ (Abstract). Reale teaches a corona generating device for depositing a negative charge on an imaging surface carried on a conductive substrate held at a reference potential (Abstract).

However, neither Bridges nor Reale cure the above-discussed deficiencies in Ishibashi in disclosing or rendering obvious a cleaning gas that comprises one of a reducing gas or an inert gas, and a changeover switch changes the polarity of the bias voltage based on a kind of the inert gas and the reducing gas, as recited in amended claims 1 and 19.

Additionally, Reale teaches switching the polarity of the bias voltage applied to the substrate for sputtering, and does not teach suppressing etching of the catalytic body itself on the basis of a radical species generated, as recited in claims 1 and 19.

For at least a combination of the above reasons, a combination of the applied references fails to arrive at the subject matter of independent claims 1 and 19. Accordingly, independent claims 1 and 19, and dependent claims 2-3, 6-9 and 20, are

patentable over all of the applied references, and withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) is respectfully requested.

Should the Examiner determine that any further action is necessary to place this application into better form for allowance, the Examiner is encouraged to telephone the undersigned representative at the number listed below.

In the event this paper is not considered to be timely filed, the Applicants hereby petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300, referencing Attorney Docket No. 029567-00010.

Respectfully submitted,



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Attachment: Request for Continued Examination (RCE)

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